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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,947	10/31/2003	Nobuyuki Nonaka	SHO-0047	8932

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EXAMINER

SHAH, MILAP

ART UNIT	PAPER NUMBER
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3714

MAIL DATE	DELIVERY MODE
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01/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/697,947

Applicant(s)

NONAKA, NOBUYUKI

Examiner

Milap Shah

Art Unit

3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 2, 2008 has been entered.

The Examiner acknowledges that claims 6 & 8 are amended, claims 1-5 are canceled, and no new claims are added. Therefore, claims 6-12 are currently pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6 & 8, as amended, add that the number of pixel lines per one degree of a player's viewing angle is in the range of 5 to 35 pixel lines per degree and that the pitch is between 0.075mm and 1.396mm. However, it's the Examiner's understanding that pixel lines per degree are based on the display size, viewing distance, and perspective (i.e. where the display is being viewed from), and thus, the Examiner submits that the claim is missing essential important elements to provide proper antecedence at arriving at the 5 to 35 pixel lines per degree range and 0.075mm to 1.396mm range for pitch. Without these additional essential values, the Examiner submits that it is unclear as to how such a range has been obtained without undue experimentation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al. (U.S. Patent Application Publication No. 2003/0016318).

Examiner Note: See Examiner note in previous action dated October 10, 2007.

Claims 6 & 8: Liang et al. disclose the invention substantially as claimed including a display unit having a plurality of pixels arranged in a matrix extending in an x direction and a y direction perpendicular to the x direction to form an xy plane (figure 3 or 5), each pixel including a first pixel unit and a second pixel unit disposed adjacent to the first pixel unit (figure 3, see a single pixel unit is made up of two sub-pixels or what is considered a first pixel unit and second pixel unit adjacent to the first pixel unit; see a similar layout in figure 5), each one of the first and second pixels units having a first pixel electrode operative to display a first color and a second pixel electrode operative to display a second color different from the first color with the first and second pixel electrodes being arranged in a serial manner relative to each other in an identical manner for each pixel (clearly seen in figure 3 or 5, where in figure 3 three pixel electrodes are used for the three colors of each pixel unit, and figure 5 two pixel electrodes are used for the two colors of each pixel unit; also note the electrodes are arranged in a serial manner across and an identical manner for each pixel), wherein, when at least one pixel is emerged, the same-color pixel electrodes of the at least one pixel are emerged simultaneously (paragraphs 0017 & 0020-0021). Liang et al. also disclose gate lines (figure 3[scan lines 46]) wired in the x direction and connected to a scanning signal driver and

information lines (figure 3[transmission lines 48]) wired in the y direction and connected to an information signal driver, wherein the game lines and the information lines are orthogonal in condition of being insulated mutually (figures 3-4 and column 3, lines 16-35, such that the scan lines in the x direction are inherently orthogonal to the transmission lines in the y direction at least based on figure 3; see also figure 4 which shows the lines are insulated mutually).

Liang et al. appear to explicitly lack disclosing the claimed ranges of 5 to 35 pixel lines per degree and a pitch of between 0.075mm and 1.396mm. Regardless of such a deficiency, the Examiner submits that it would have been well within the ordinary level of skill to the display device designer to incorporate known values in the design of the Liang et al. device. The Applicant has not shown how said ranges provide any unexpected or critical results, and it appears the prior art would have worked equally well when implemented using the claimed ranges. It has been held that where claimed ranges overlap or lie inside ranges disclosed by the prior art, a prima facie case of obviousness exists. See *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) or *In re Woodruff*, 919 F.2d 1575, 16 USPQ 1934 (Fed. Cir. 1990). Thus, the Examiner submits those of ordinary skill with the knowledge of the Liang et al. device would have found the claimed ranges to overlap those known in the art and therefore, those skilled in the display arts would have expected the claimed ranges to have the same properties. Therefore, it would have been obvious to those of ordinary skill in the art at the time the invention was made to modify Liang et al. with known values for pixels lines per degree and pitch to achieve expected results with improved resolution due to a higher number of pixel lines per degree resulting in a better image at no cost, implementation of said values appear to produce predictable or expected results of increased resolution, which is common place when introducing these known values. Additionally, it appears

no unexpected results arise from implementing the claimed ranges, thus, these ranges are deemed non-critical to patentability. See Also MPEP 2144.05 entitled "Obviousness of Ranges".

Also note, the Examiner had previously deemed a claimed formula for determining a pitch value as a formula that appeared to mask common values for pitch. The claimed values of pixels per degree and pitch in the newest amendment also appear common to the display arts and those of ordinary skill and common knowledge in the display arts would have found it obvious to try various values to achieve expected results. The results are deemed expected as each result can be precisely calculated given the test values implemented. Thus, if anticipated success is reached, it is likely the product is not of innovation, but ordinary skill and common sense.

Claims 7 & 9: Liang et al. disclose the pixels are arranged in a matrix in an "xy plane", and as seen in figures 3 or 5, the pixel electrodes of the same color are arranged in the y direction and the same pattern is continuously arranged in the x direction to form a stripe (figures 3 or 5).

Claim 10: Liang et al. disclose a possible intended use of the pixeling method is in a "highly transmissive" liquid crystal display (paragraph 0015; note "on a game board" is considered intended use).

Claims 11 & 12: Liang et al. disclose the pixel electrodes for the same color included in a pair of pixel units a and b respectively are connected on a one-to-two relationship (figures 4A and 4B show that each pixel units a and b are connected to the gate lines and transmission lines via a single connection for the both pixel units a and b, thus, the electrodes are connected on a one-to-two relationship).

Response to Arguments


Applicant's arguments filed January 2, 2008 have been fully considered but they are not persuasive. A response to arguments is incorporated in the updated rejections above. The newly claimed range of numbers regarding pixels lines per degree and pitch were deemed obvious ranges. See the rejections above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Milap Shah whose telephone number is (571) 272-1723. The examiner can normally be reached on M-F: 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Robert Pezzuto
Supervisory Patent Examiner
Art Unit 3714